FIG. 1

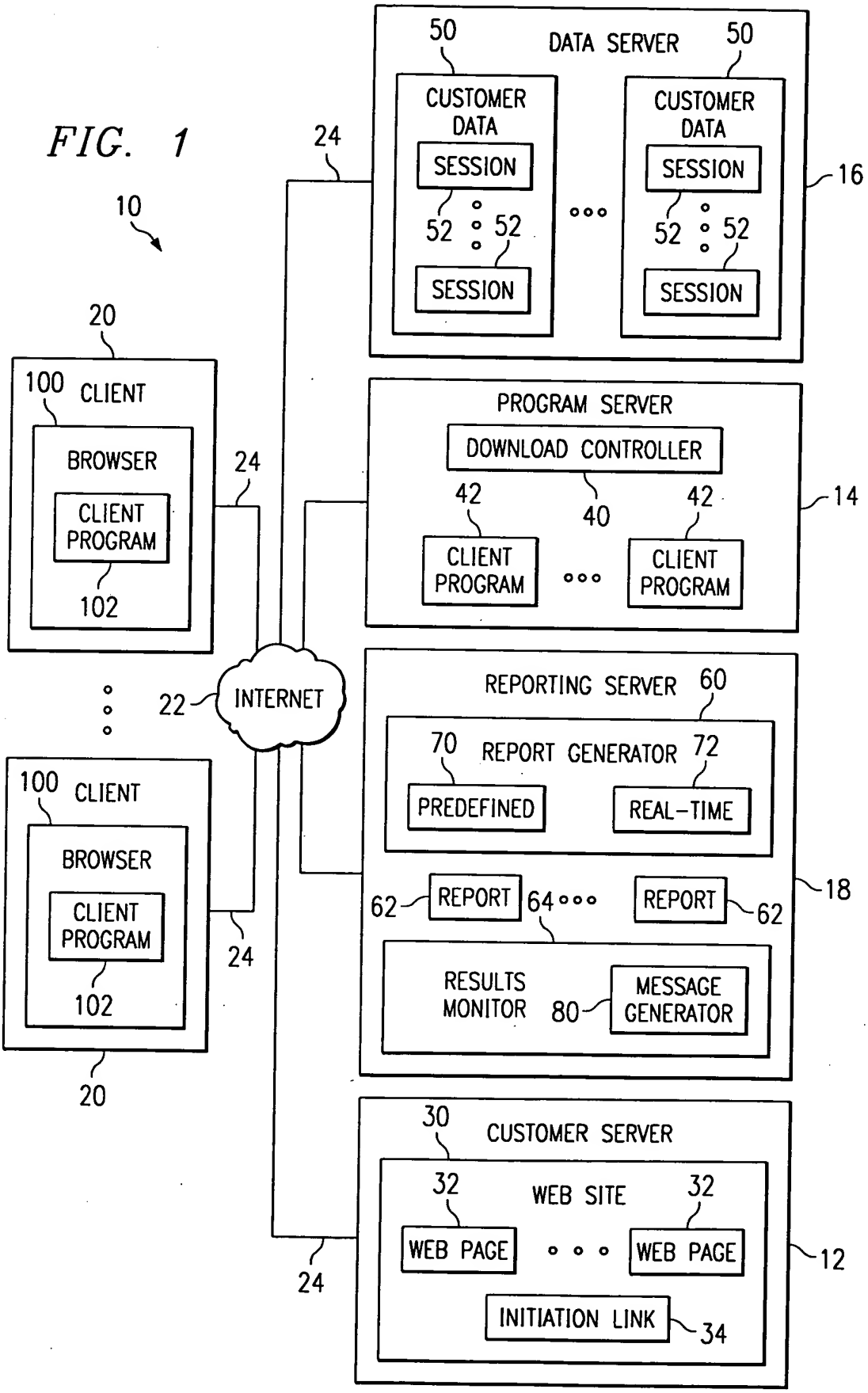

10
DATA SERVER
50
50
CUSTOMER DATA
SESSION
52
52
SESSION
CUSTOMER DATA
SESSION
52
52
SESSION
16
24
20
100 CLIENT
BROWSER
CLIENT PROGRAM
102
24
PROGRAM SERVER
DOWNLOAD CONTROLLER
42
40
42
CLIENT PROGRAM
CLIENT PROGRAM
14
22
INTERNET
REPORTING SERVER
60
70
REPORT GENERATOR
72
PREDEFINED
REAL-TIME
62
REPORT
64
REPORT
62
18
RESULTS MONITOR
80
MESSAGE GENERATOR
100 CLIENT
BROWSER
CLIENT PROGRAM
102
24
20
30
CUSTOMER SERVER
32
WEB SITE
32
WEB PAGE
WEB PAGE
12
INITIATION LINK
34
24

FIG. 2

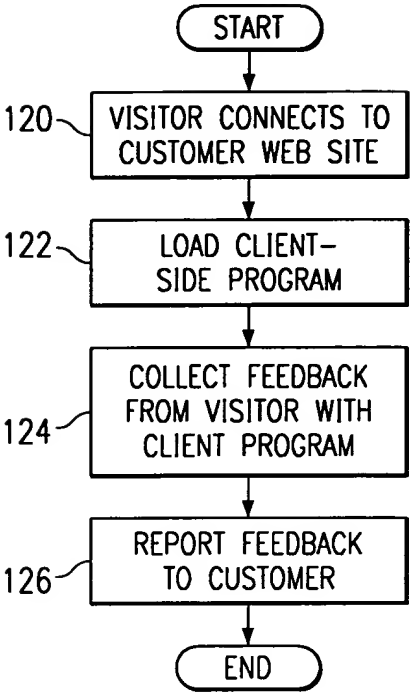


FIG. 3

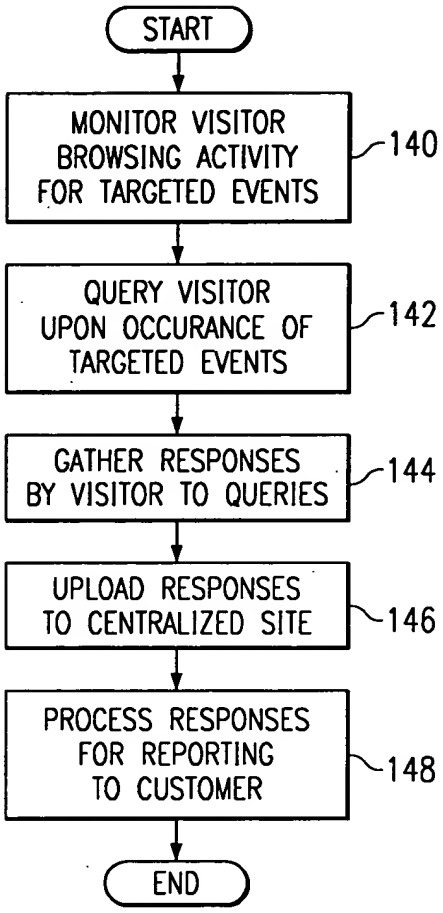
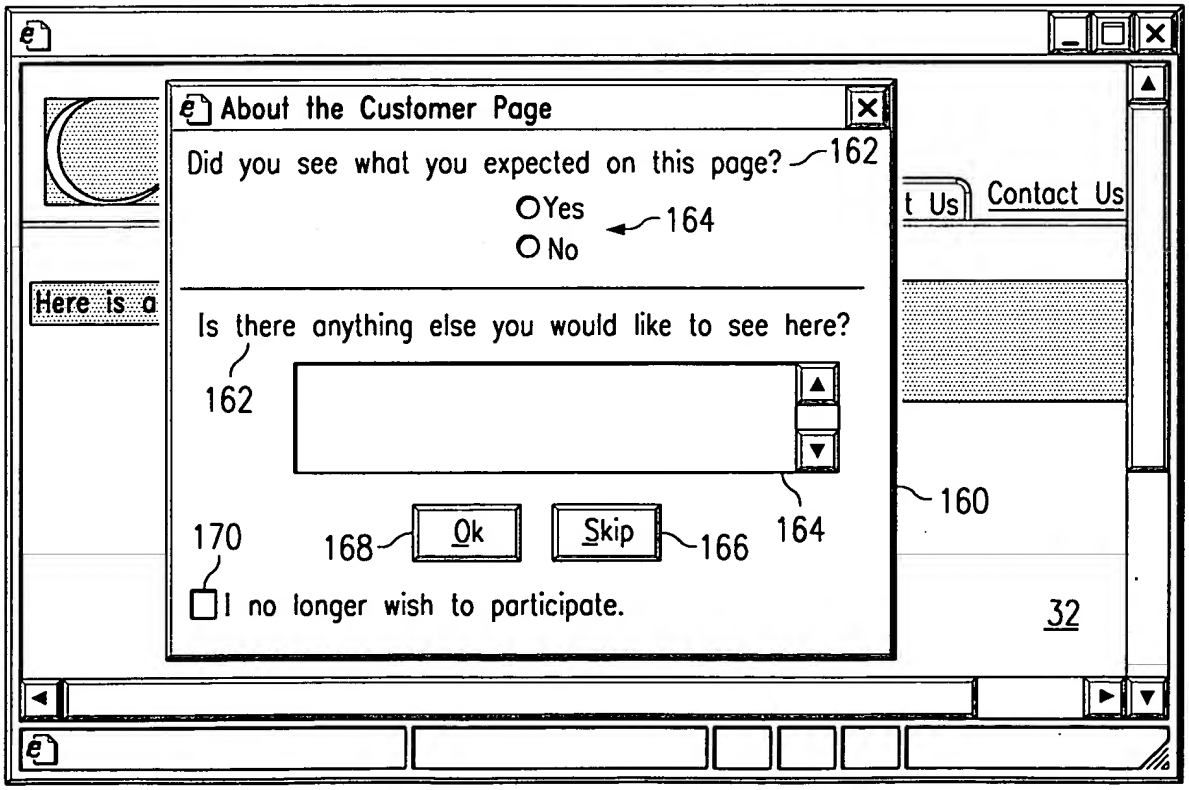
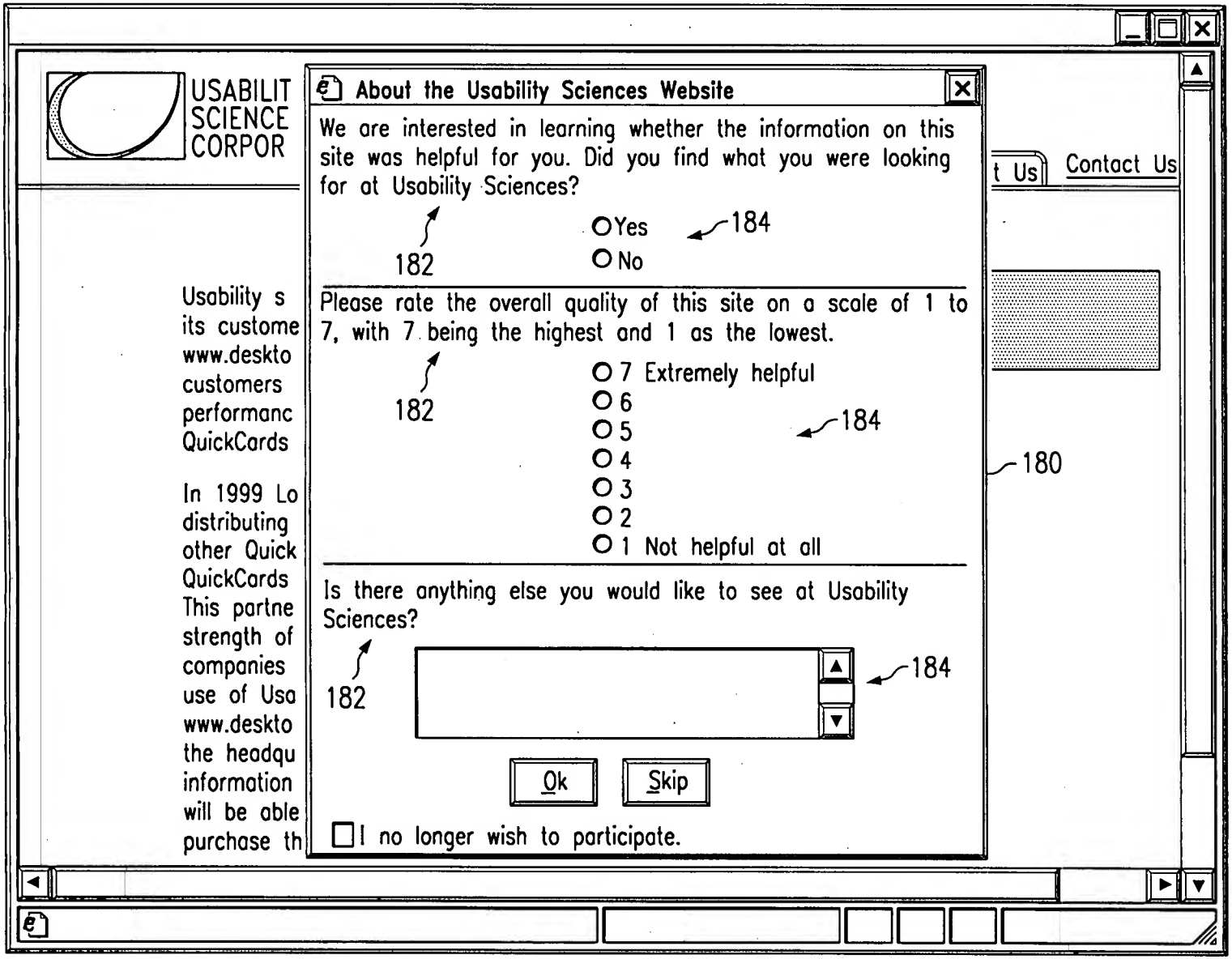


FIG. 4A




USABILIT
SCIENCE
CORPOR
About the Usability Sciences Website
We are interested in learning whether the information on this site was helpful for you. Did you find what you were looking for at Usability Sciences?
Yes
No
182
184
Please rate the overall quality of this site on a scale of 1 to 7, with 7 being the highest and 1 as the lowest.
7 Extremely helpful
6
5
4
3
2
1 Not helpful at all
182
184
Is there anything else you would like to see at Usability Sciences?
182
184
Ok
Skip
I no longer wish to participate.
t Us
Contact Us
180
Usability s
its custome
www.deskto
customers
performanc
QuickCards
In 1999 Lo
distributing
other Quick
QuickCards
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companies
use of Usa
www.deskto
the headqu
information
will be able
purchase th

FIG. 4B

FIG. 5

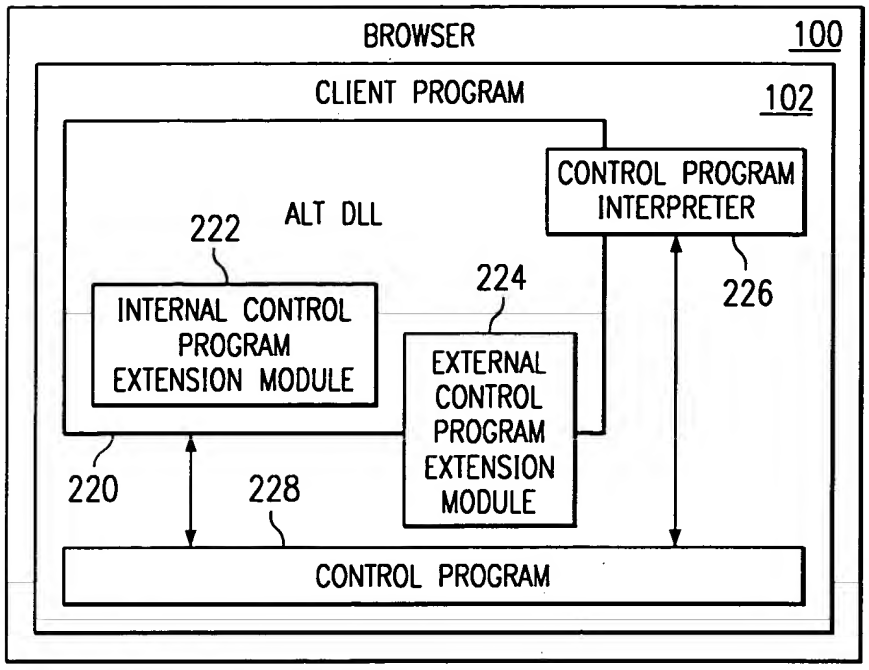

FIG. 6

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242 STATE ID	244 BROWSER EVENT	246 CRITERIA	248 ACTION	250 NEXT STATE
1	MOUSE CLICK	*.xyz.com	ASK QUESTION	2
1	MOUSE OVER	*.xyz.com,location	ASK QUESTION	3
2	*	*	ASK QUESTION	–
3	MOUSE CLICK	*	ASK QUESTION	–
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.

240

FIG. 7A

```
////////////////////////////////////////////////////////////////////
// Program    :   Example
//
// Purpose    :   This program is used to interact with web users while on the
//                XYZ Company web site.
//
////////////////////////////////////////////////////////////////////
// Import the API function definitions that will be used to provide WebIQ-specific
// functionality
module "..\WebiQ.iem";

////////////////////////////////////////////////////////////////////
// Function   :   IntroduceXYZDemo
//
// Purpose    :   Inform the web site user that WebIQ is currently running and what
                  they can expect while interacting with the XYZ web site.
//
// Params     :   None
//
// Return     :   Nothing
//
////////////////////////////////////////////////////////////////////
void IntroduceXYZDemo (void)
{
    int nDialogResult;
    ////////////////////////////////////////////////////////////////
    // Attempt to create a dialog that will be used to display informational text to
    // the user. If the dialog has already been created, then the function will return 0
    // and we don't need to go through the process of adding the necessary questions.
    ////////////////////////////////////////////////////////////////
    if(CreateDialog("XYZDemoIntroBox","XYZ WebIQ Demonstration",""))
{
    ////////////////////////////////////////////////////////////////
    // Create the first statement "question".
    ////////////////////////////////////////////////////////////////
    CreateQuestion (
        "WelcomeStatement",
        "Welcome to the XYZ WebIQ Demonstration.",
```

TO FIG. 7B

FIG. 7B

FROM FIG. 7A

```
    1,
    "Welcome to the XYZ.com WebIQ demo,
    1,
    1
);

////////////////////////////////////////////////////////////////
// Add the newly-created question to the newly-created dialog
////////////////////////////////////////////////////////////////
AddQuestion ("XYZDemoIntroBox", "WelcomeStatement");

////////////////////////////////////////////////////////////////
// Add some vertical space to the dialog so that the questions are separated a bit.
////////////////////////////////////////////////////////////////
AddSpace ("XYZDemoIntroBox",2)'

////////////////////////////////////////////////////////////////
// Create the next statement "question" that'll be used to inform the user what
// WebIQ is doing and what they can expect.
////////////////////////////////////////////////////////////////
CreateQuestion(
    "DemoStatementSeg1",
    "WebIQ is currently running in your browser, although you will not    notice it
    unless>>
    1,
    "explanation that WebIQ is running and transparent to users",
    1,
    1
);

////////////////////////////////////////////////////////////////
// Add the newly-created question to the newly-created dialog.
////////////////////////////////////////////////////////////////
AddQuestion ("XYZDemoIntroBox", "DemoStatementSeg1")'

////////////////////////////////////////////////////////////////
// Create yet another statement "question" that will explain WHY WebIQ will do
// what it will do.
////////////////////////////////////////////////////////////////
CreateQuestion (
```

TO FIG. 7C

FIG. 7C

FROM FIG. 7B

```
        "DemoStatementSeg2",
        "A question box will be triggered when you perform an action that has been
        program>>
        1,
        "explanation that WebIQ is a triggered by pre-programmed events",
        1,
        1
    );

    ////////////////////////////////////////////////////////////////
    // Add the newly-created question to the newly-created dialog.
    ////////////////////////////////////////////////////////////////
    AddQuestion ("XYZDemoIntroBox","DemoStatementSeg2");
    }
    ////////////////////////////////////////////////////////////////
    // Display the dialog to the user.
    ////////////////////////////////////////////////////////////////
    nDialogResult = DisplayDialog ("XYZDemoIntroBox");

    ////////////////////////////////////////////////////////////////
    // Unregister the event that causes this question to be displayed so that it'll never be
    // shown again
    ////////////////////////////////////////////////////////////////
  UnregisterPageEvent ("XYZDemoStart", "XYZHomepage");
}

////////////////////////////////////////////////////////////////
// Function    :   AskAboutXYZSite
//
// Purpose     :   Solicit some feedback from the user with regard to the usefulness of
//                 the XYZ web site.
// Params      :   None
//
// Return      :   Nothing
//
////////////////////////////////////////////////////////////////
void AskAboutXYZSite (void)
{
    int nDialogResult;
```

TO FIG. 7D

FIG. 7D

FROM FIG. 7C

```
////////////////////////////////////////////////////////////////
// Attempt to create a dialog on which some questions will be placed to get a feel
// for the user's opinion with regard to the usefulness of the web site. If the dialog
// has already been created, then the function will return 0 and we don't need to
// go through the process of adding the necessary questions.
////////////////////////////////////////////////////////////////
if (CreateDialog("XYZSiteExitBox","About the XYZ.com Website",""))

  ////////////////////////////////////////////////////////////////
  // Create a radio button-based question that asks the user if they found the site
  // to be helpful.
  ////////////////////////////////////////////////////////////////
CreateQuestion (
   "SiteFeedbackQues",
   "We are interested in learning whether the information on this site was helpful
   fo>>
   1,
   "did you find what you were looking for on XYZ.com?",
   3,
   2
);

////////////////////////////////////////////////////////////////
// And a "yes" option to the newly-created question (defaults to unselected).
////////////////////////////////////////////////////////////////
AddQuestionOption ("SiteFeedbackQues", 1, "Yes", 0);

////////////////////////////////////////////////////////////////
// Add a "no" option to the newly-created question (defaults to unselected).
////////////////////////////////////////////////////////////////
AddQuestionOption ("SiteFeedbackQues", 1,"No, 0);

////////////////////////////////////////////////////////////////
// Add the newly-created question to the newly-created dialog
////////////////////////////////////////////////////////////////
AddQuestion("XYZSiteExitBox", "SiteFeedbackQues");

////////////////////////////////////////////////////////////////
// Add a line (that is 2 pixels thick) to the dialog to separate the questions on the
// dialog
```

TO FIG. 7E

FIG. 7E

FROM FIG. 7D

```
////////////////////////////////////////////////////////////////
AddLine("XYZSiteExitBox", 2);

////////////////////////////////////////////////////////////////
// Create a radio button-based question that asks the user to create the quality of
// the site on a scale of 1 to 7.
////////////////////////////////////////////////////////////////
CreateQuestion(
   "XYZSatSurvey",
   Please rate the overall quality of this site on a scale of 1 to 7, with 7 being t>>
   1,
   "satisfaction survey for xyz.com, on a scale of 1 (bad) to 7 (good)",
   3,
   2
);

////////////////////////////////////////////////////////////////
// Add an option to the question for each of the rating possibilities
////////////////////////////////////////////////////////////////
AddQuestionOption ("XYZSatSurvey", 1, "7 Extremely helpful", 0);
AddQuestionOption ("XYZSatSurvey", 1, "6, 0);
AddQuestionOption ("XYZSatSurvey", 1, "5, 0);
AddQuestionOption ("XYZSatSurvey", 1, "4, 0);
AddQuestionOption ("XYZSatSurvey", 1, "3, 0);
AddQuestionOption ("XYZSatSurvey", 1, "2, 0);
AddQuestionOption ("XYZSatSurvey", 1, "1, Not helpful at all", 0);

////////////////////////////////////////////////////////////////
// Add the newly-created question to the newly-created dialog
////////////////////////////////////////////////////////////////
AddQuestion ("XYZSiteExitBox", "XYZSatSurvey");

////////////////////////////////////////////////////////////////
// Add a line (that is 2 pixels thick) to the dialog to separate the questions on the
// dialog
////////////////////////////////////////////////////////////////
AddLine (("XYZSiteExitBox", 2);

////////////////////////////////////////////////////////////////
// Create a text entry-based question that'll allow the user to provide arbitrary
```

TO FIG. 7F

FIG. 7F

FROM FIG. 7E

```
    // feedback with regard to what they would like to see added to the web site.
    ////////////////////////////////////////////////////////////////////
    CreateQuestion (
        "XYZSiteSuggestion",
        "Is there anything else you would like to see at XYZ.com?"


        1
        "request for suggestions about XYZ.com",
        2,
        2
    );

    ////////////////////////////////////////////////////////////////////
    // Set the parameters for the text entry box (aprox. 40 characters wide, 3 lines
    // high, and a maximum of 200 characters that can be entered)
    ////////////////////////////////////////////////////////////////////
    SetQuestionEditParams ("XYZSiteSuggestions", 40, 3, 200);

    ////////////////////////////////////////////////////////////////////
    // Add the newly-created question to the dialog
    ////////////////////////////////////////////////////////////////////
    AddQuestion (XYZSiteExitBox", "XYZSiteSuggestions")

  }

  ////////////////////////////////////////////////////////////////////
  // Display the dialog to the user.
  ////////////////////////////////////////////////////////////////////
  nDialogResult = DisplayDialog ("XYZSiteExitBox");

  ////////////////////////////////////////////////////////////////////
  // Unregister the event that causes this question to be displayed so that it'll never
  // be shown again.
  ////////////////////////////////////////////////////////////////////
  UnregisteredSiteEvent ("XYZSiteExit", "XYZSite);

}

////////////////////////////////////////////////////////////////////
// Function    :    OnInit
```

TO FIG. 7G

FIG. 7G

FROM FIG. 7E

```
//
// Purpose    :  This function is called when the program is initialized by the
//               interpreter
//
// Params     :  None
//
////////////////////////////////////////////////////////////////////////
void OnInit (void)

    ////////////////////////////////////////////////////////////////////
    // Set the default caption or the checkbox that allows the user to prevent future
    // dialogs from popping up. This will apply to all dialogs.
    ////////////////////////////////////////////////////////////////////
    SetStopMessage (" ", "I no longer wish to participate.");

    ////////////////////////////////////////////////////////////////////
    // Create a page attachment to the home page of the XYZ Company web site.
    ////////////////////////////////////////////////////////////////////
    CreatePageAttachment ("XYZHomepage", "http://www.im.xyz.com/American*");

    ////////////////////////////////////////////////////////////////////
    // For the page attachment for the home page of the XYZ Company web site,
    // add a specific value in order for all events associated with the page attachment
    // to be valid.
    ////////////////////////////////////////////////////////////////////
    AddPageRequirement ("XYZHomepage", "TITLE", "Home Page with Login", 0);

    ////////////////////////////////////////////////////////////////////
    // Register on OnLoad event for the home page. This will cause the Onsignal( )
    // function to be called when the page has loaded.
    ////////////////////////////////////////////////////////////////////
    RegisterPageEvent ("XYZDemoStart", "XYZHomepage", "OnLoad");

    ////////////////////////////////////////////////////////////////////
    // Create a page attachment to just about any page within the XYZ Company
    // web site.
    ////////////////////////////////////////////////////////////////////
    CreatePageAttachment ("XYZSite", "http://www/im/xyz/com/xyz*");
```

TO FIG. 7H

FIG. 7H

FROM FIG. 7G

```
    ////////////////////////////////////////////////////////////////
    // Register on OnExit event for the site. This will cause the OnSignal () function
    // to be called when the XYZ Company site (as defined by the XYZSite page
    // attachment) has been navigated away from.
    ////////////////////////////////////////////////////////////////
    RegisterSiteEvent (XYZSiteExit", "XYZSite", "OnExit");

    ////////////////////////////////////////////////////////////////
    // Redirect the web browser to the XYZ Company web site.
    ////////////////////////////////////////////////////////////////
    Redirect ("http://www.xyz.com/");

}

////////////////////////////////////////////////////////////////
// Function    :    OnSignal
//
// Purpose     :    This function is called when a registered event is triggered
//
// Params      :    sEventID (string)
//                     The ID of the event that has been triggered (click, page, or site
//                     event)
//
//                  sEventParams (string)
//                     Additional information associated with the event. Currently,
//                     this parameter does not contain any kind of useful information;
//                     it will always be an empty string ("") until further implemented
//                     in future releases.
//
// Return      :    Nothing
////////////////////////////////////////////////////////////////
void OnSignal
(
    string sEventID,
    string sEventParams
)
(
    ////////////////////////////////////////////////////////////////
```

TO FIG. 7I

FIG. 7I

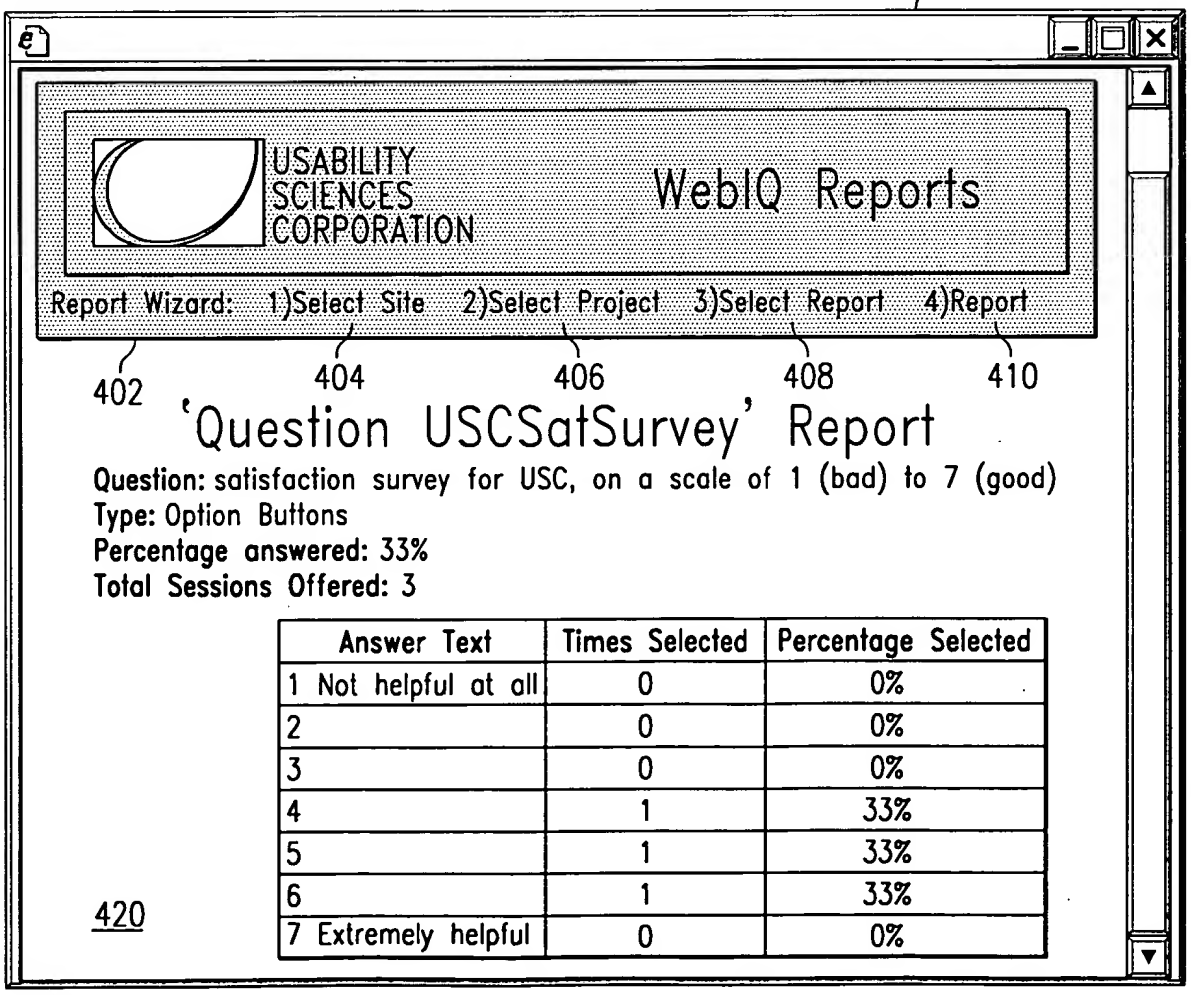
FROM FIG. 7H

```
// The following logic is pretty self-explanatory
////////////////////////////////////////////////////////////////////////

    if(sEventID=="XYZDemoStart")
{
    IntroduceXYZDemo ( );
}
else if (sEventID=="XYZSiteExit")
{
    AskAboutXYZSite ( );

    ////////////////////////////////////////////////////////////////////////
    // When the user leaves the XYZ Company web site, we want to terminate WebIQ
    ////////////////////////////////////////////////////////////////////////
    Quit ( );
}
```

FIG. 10



Answer Text	Times Selected	Percentage Selected
1 Not helpful at all	0	0%
2	0	0%
3	0	0%
4	1	33%
5	1	33%
6	1	33%
7 Extremely helpful	0	0%

FIG. 8

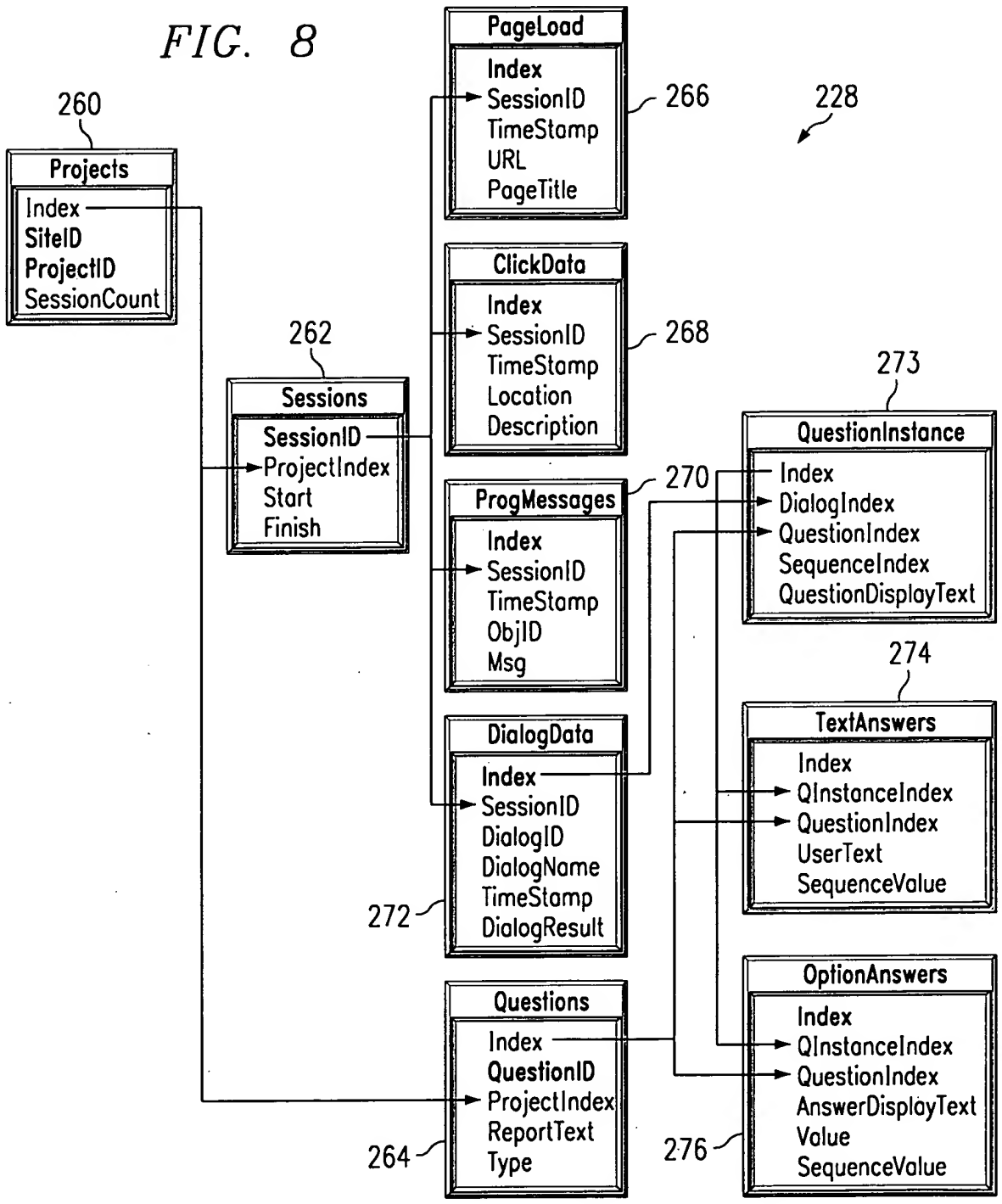


FIG. 9A

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Questions Table

Index	QuestionID	ProjectIndex	ReportText	Type
1	QRateSite	1	Please rate the [section] section between 1 (bad) and 7 (good)	3
2	QWhatElse	1	What other features would you like to see on our site?	2

272

DialogData Table

FIG. 9B

Index	SessionID	DialogID	DialogName	TimeStamp	DialogResult
1	1	SectionReviewDialog	Rate This Section	08/30/2000 11:01:25 AM	1

273

QuestionInstance Table

FIG. 9C

Index	DialogIndex	QuestionIndex	SequenceValue	QuestionDisplayText
1	1	2	1	What other features would you like to see on our site?
2	1	1	2	Please rate the Services section between 1 (Bad) and 7 (Good).

274

TextAnswers Table

FIG. 9D

Index	QinstanceIndex	QuestionIndex	UserText	SequenceValue
1	1	2	I would like a search feature on your site.	1

276

OptionAnswers Table

FIG. 9E

Index	QinstanceIndex	QuestionIndex	AnswerDisplayText	Value	Sequence Value
1	2	1	1 (Bad)	0	7
2	2	1	2	0	6
3	2	1	3	0	5
4	2	1	4	0	4
5	2	1	5	1	3
6	2	1	6	0	2
7	2	1	7 (Good)	0	1

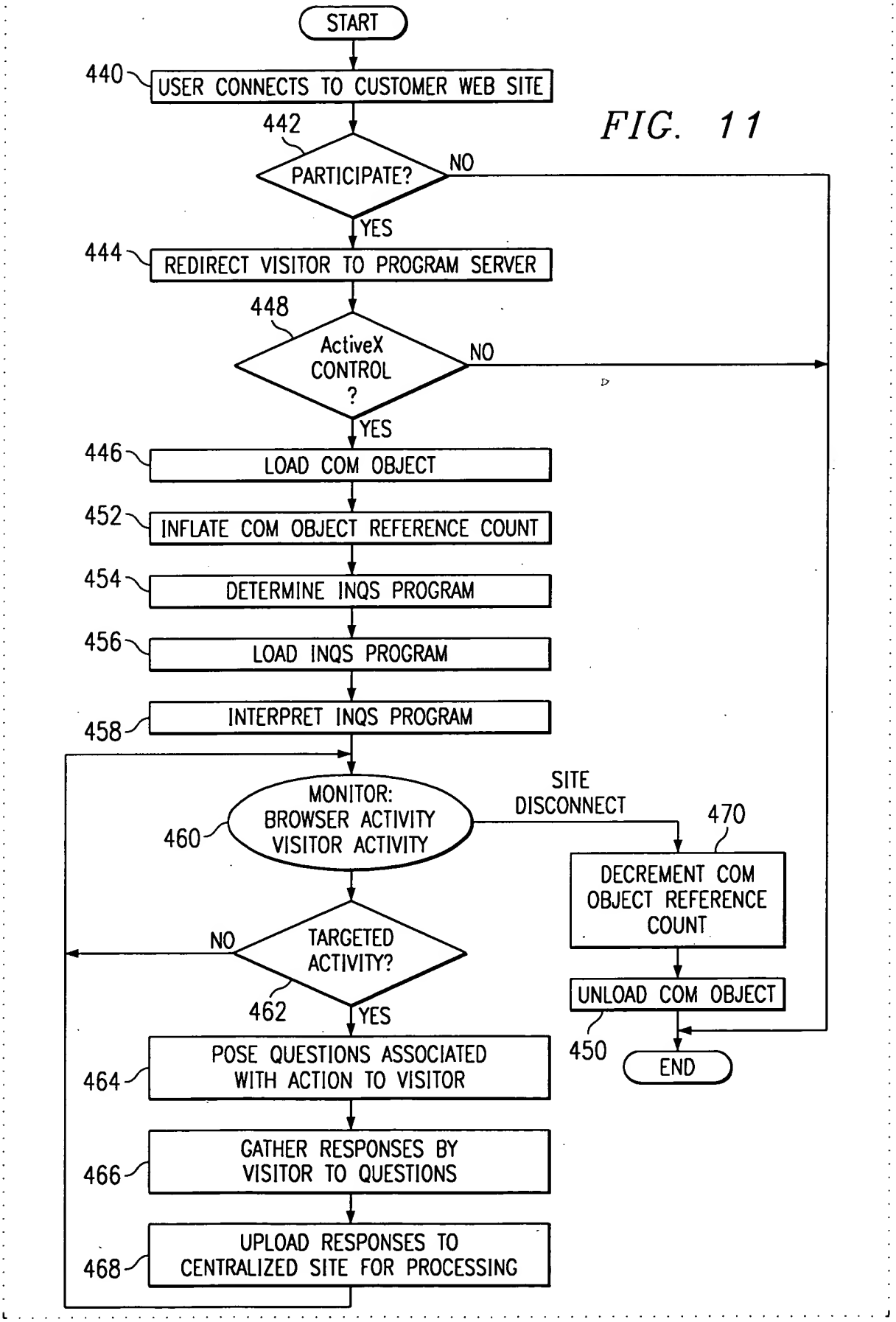
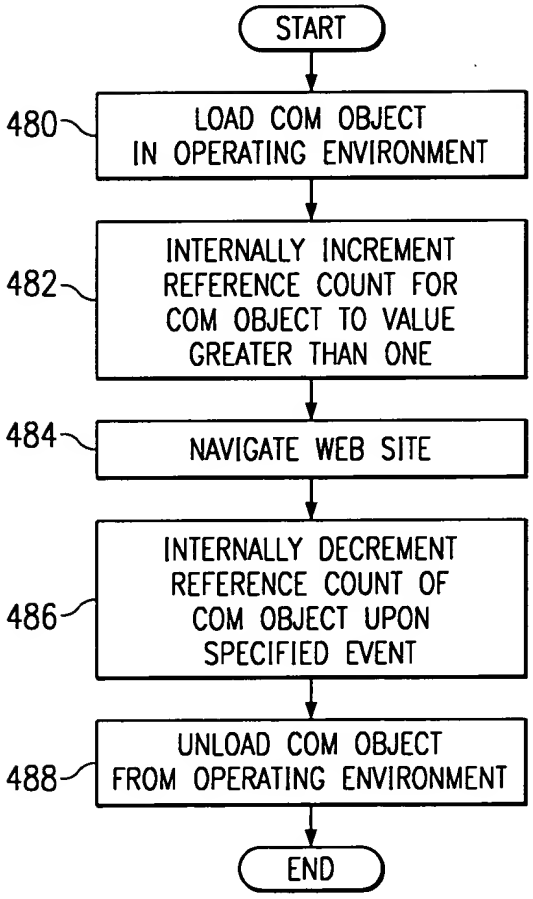

START
440
USER CONNECTS TO CUSTOMER WEB SITE
442
PARTICIPATE?
NO
YES
444
REDIRECT VISITOR TO PROGRAM SERVER
448
ActiveX CONTROL ?
NO
YES
446
LOAD COM OBJECT
452
INFLATE COM OBJECT REFERENCE COUNT
454
DETERMINE INQS PROGRAM
456
LOAD INQS PROGRAM
458
INTERPRET INQS PROGRAM
460
MONITOR: BROWSER ACTIVITY VISITOR ACTIVITY
SITE DISCONNECT
470
DECREMENT COM OBJECT REFERENCE COUNT
UNLOAD COM OBJECT
450
END
NO
TARGETED ACTIVITY?
462
YES
464
POSE QUESTIONS ASSOCIATED WITH ACTION TO VISITOR
466
GATHER RESPONSES BY VISITOR TO QUESTIONS
468
UPLOAD RESPONSES TO CENTRALIZED SITE FOR PROCESSING

FIG. 11

FIG. 12


START
480
LOAD COM OBJECT IN OPERATING ENVIRONMENT
482
INTERNALLY INCREMENT REFERENCE COUNT FOR COM OBJECT TO VALUE GREATER THAN ONE
484
NAVIGATE WEB SITE
486
INTERNALLY DECREMENT REFERENCE COUNT OF COM OBJECT UPON SPECIFIED EVENT
488
UNLOAD COM OBJECT FROM OPERATING ENVIRONMENT
END